10 CSR 10-5.330 Control of Emissions From Industrial Surface Coating Operations

(1) Applicability.

(A) This rule shall apply throughout St. Louis City and Jefferson, St. Charles, Franklin and St. Louis Counties.

(B) This rule shall apply to any installation with actual emissions of greater than two and one-half (2 1/2) tons in any calendar year after December 1, 1989, of volatile organic compounds (VOCs) from surface coating operations covered under this rule. This includes any installation which does not have an allowable VOC emission limit established under 10 CSR 10-6.060 or legally enforceable state implementation plan revision, which has actual VOC emissions of greater than two and one-half (2 1/2) tons in any calendar year after December 1, 1989. Once a source is determined to exceed the applicability level of this rule, it shall remain subject to this rule even if its actual emissions drop below the applicability level.

(C) This rule is not applicable to the surface coating of the following metal parts and products:

1. Automobile refinishing;

2. Customizing top coating of automobiles and trucks, if production is less than thirty-five (35) vehicles per day; and

3. Exterior of marine vessels.

(2) Definitions of certain terms specified in this rule may be found in 10 CSR 10-6.020.

(3) General Provisions. No person shall emit to the atmosphere any VOC from any surface coating operation in excess of the amount allowed in section (4). A surface coating operation includes an application area(s), flashoff area(s), oven(s) and any other functional area needed to complete a coating.

(4) Tables of Emission Limitations and Dates of Compliance.

(A) Table A: VOC Emission Limits Based on Solids Applied.

Operations Surface Coating	Emission Limit lbs. VOC/gal. Solids Applied	Dates of Compliance
Auto/light duty truck		
Topcoat	15.1	12/1/89
Spray Prime or Primer Surfacer	15.1	12/1/89

(B) Table B: VOC Emission Limits Based on Weight of VOC per Gallon of Coating (minus water and non-VOC organic compounds).

Surface Coatings Operations	Emission Limit lbs. VOC/gal. Coating (less water & non-VOC organic compounds)	Dates of Compliance (See Note)
Large Appliance		
Topcoat	2.8	12/31/81
Final Repair	6.5	12/31/81
Magnet Wire	1.7	12/31/81
Metal Furniture	3.0	12/31/81
Auto/Light Duty Truck		
Chrysler Motor Co. (Car)		
Prime-Electrocoat	1.2	12/31/85
Spray Prime	4.2	12/31/79
	3.4	12/31/83
	2.8	12/31/85
Topcoat	3.9	12/31/79
	3.0	12/31/84
	2.5	12/31/85
Final Repair	4.8	12/31/81
Miscellaneous Metal Parts		
Extreme Performance and Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82

Surface Coatings Operations	Emission Limit lbs. VOC/gal. Coating (less water & non-VOC organic compounds)	Dates of Compliance (See Note)
Chrysler Motor Co. (Truck)		
Prime-Electrocoat	1.2	12/31/84
Spray Prime	4.4	12/31/79
	3.4	12/31/82
	2.8	12/31/84
Topcoat	3.9	12/31/79
	2.5	12/31/84
Final Repair	4.8	12/31/84
Miscellaneous Metal Parts		
Extreme Performance and Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
Ford Motor Company		
Prime-Electrocoat	1.2	12/31/82
Spray Prime	3.2	12/31/83
Topcoat	3.6	12/31/84
Final Repair	4.8	12/31/84
Miscellaneous Metal Parts		
Extreme Performance and Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
General Motors Company		
Cathodic Electrocoat	1.2	12/31/82
Primer Surfacer	3.0	12/31/82
	2.8	12/31/84
Topcoat	5.8	12/31/79
	5.0	12/31/81
	2.8	12/31/84
Final Repair	6.5	7/1/79
	4.8	12/31/84
Miscellaneous Metal Parts		
Extreme Performance and Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82

Surface Coatings Operations	Emission Limit lbs. VOC/gal. Coating (less water & non-VOC organic compounds)	Dates of Compliance (See Note)
Paper	2.9	12/31/81
Vinyl	3.8	12/31/81
Fabric	2.9	12/31/81
Coil	2.6	12/31/81
Can		
2 Piece Exterior Sheet	4.0	12/31/82
Basecoat	2.8	12/31/85
2 and 3 Piece Interior Body Spray	4.2	12/31/82
2 Piece End Exterior	4.2	12/31/82
3 Piece Side Seam	5.5	12/31/82
End Seal Compound	4.2	12/31/82
	3.7	12/31/85
Railroad Cars, Farm Implements and Machinery, and Heavy Duty Trucks	3.5	12/31/82
Other Metal Parts		
Clear Coat	4.3	12/31/82
Extreme Performance and Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
Plastic Parts	3.5	4/11/84
Mail Boxes and Shutters	3.5	4/11/85

Note: The emission limit associated with the latest compliance date for each surface coating process supersedes interim emission limits associated with earlier compliance dates. No coating operation shall have emission limits from Tables A and B that apply at the same time.

(5) Determination of Compliance. Compliance with section (4) of this rule shall be determined by one (1) of the following methods specified in subsections (5)(A) and (B) as applicable and appropriate:

(A) For subsection (4)(A), Table A, the calculation of

daily volume-weighted emission performance for automobile and light duty truck primer surfacer and topcoat operations shall be made according to procedures detailed in the United States Environmental Protection Agency (EPA) document entitled "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light Duty Truck Topcoat Operations" (U.S. EPA-450/3-88-018) dated December, 1988; and

(B) For subsection (4)(B), Table B--

1. Compliance with the emission limits may be determined using the method referenced in 10 CSR 10-6.030(14)(C) using the one (1)-hour bake. Emission performance shall be on the basis of a daily volume-weighted average of all coatings used in each surface coating operation as delivered to the coating applicator(s) on a coating line. The daily volume-weighted average ($DAVG_{vw}$) shall be calculated by the following formula:

$$DAVG_{vw} = \frac{\sum_{i=1}^{n} (A_i \times B_i)}{C}$$

Where:

A = daily gal. each coating used (minus water and exempt solvents) in a surface coating operation;

B = lbs. VOC/gal. coating (minus water and exempt solvents);

C = total daily gal. coatings used (minus water and exempt solvents) in a surface coating operation; and

N = number of coatings used in a surface coating operation;

2. Compliance with the emission limits in subsection (4)(B), Table B may be determined on a pounds of VOC per gallon of coating solids basis. The determination is made by first converting the emission limit in subsection (4)(B), Table B to
pounds of VOC per gallon of coating solids as shown in the following three (3) steps:

1) $\frac{\text{lbs. VOC per gallon of coating (emission limit minus water from (4)(B))}}{\text{7.36 lbs. per gallon (average density of solvents used to originally establish the emission limit)}} = \text{Volume fraction of VOC}$

2) $1 - \text{Volume fraction of VOC} = \text{Volume fraction solids}$

3) $\frac{\text{lbs. VOC per gallon of coating (emission limit minus water from (4)(B))}}{\text{Volume fraction of solids}} = \text{lbs. VOC gallons of coating solids}$

This value from step 3) is the new emission limit. It is equivalent to the emission limit in subsection (4)(B) on a coating solids basis. The VOC per gallon of coating solids for each coating solids used is then determined using the method referenced in 10 CSR 10-6.030(14)(C) using the one (1)-hour bake. The composite daily weighted average of pounds of VOC per gallon of coating solids as tested for in the actual coatings used is compared to the new emission limit. Source operations on a coating line using coatings with a composite actual daily weighted average value less than or equal to the new emission limit, are in compliance with this rule; or

3. Compliance with the emission limits in subsection (4)(B), Table B may be determined on a pounds of VOC per gallon of coating solids applied basis. An owner or operator may request his/her emission limit be modified to be equivalent to the emission limit in subsection (4)(B), but in emission units of pounds of VOC emitted per gallon of coating solids applied. This new emission limit is derived by dividing the emission limit from paragraph (5)(B)2. by an appropriate value for transfer efficiency (TE) as determined by the director. Prior to this determination, the owner or operator shall demonstrate to the satisfaction of the director that an adequate, fully replicable TE test method exists for the source operation. Upon approval of the TE demonstration, the director will develop an emission limit equivalent to the applicable emission limit in subsection (4)(B).

(6) Record Keeping.

(A) The owner or operator of a coating line shall keep records detailing specific VOC sources as necessary for the director to determine daily compliance. These may include:

1. Daily records of the type and the quantity of coatings used daily;

2. The coating manufacturer's formulation data for each coating on forms provided or approved by the director;

3. Daily records of the type and quantity of solvents for coating, thinning, purging and equipment cleaning used;

4. All test results to determine capture and control efficiencies, TEs and coating makeup;

5. Daily records of the type and quantity of waste solvents reclaimed or discarded daily;

6. Daily records of the quantity of pieces or materials coated daily; and

7. Any additional information pertinent to determining compliance.

(B) Records such as daily production rates may be substituted for actual daily coating use measurements provided the owner submits a demonstration approved by the director that these records are adequate for the purposes of this rule.

(C) Records required under subsections (6)(A) and (B) shall be retained by the owner or operator for a minimum of two (2) years. These records shall be made available to the director upon request.

(7) Compliance Schedules.

(A) Owners or operators who were subject to this rule prior to December 1, 1989 shall be subject to the compliance dates set forth in section (4). Record keeping systems required of these owners or operators under section (6) shall

be in place and functioning not later than April 1, 1990. All other subject owners or operators shall be in compliance and have all record keeping systems in place by December 1, 1990.

(B) Owners or operators subject to this rule, but operating under alternate compliance plans as allowed prior to December 1, 1989, shall submit documentation by March 1, 1990 that their controls represent compliance with this rule. If the director determines that the documentation represents compliance, the director shall propose to the Missouri Air Conservation Commission subsequent rules' amendments to make those control measures enforceable. If documentation is not submitted or if the director determines the documentation does not represent compliance, the owner or operator shall comply with section (4) of this rule. All owners or operators subject to this subsection shall demonstrate compliance by December 1, 1990.

EPA Rulemakings

CFR: 40 C.F.R. 52.1320(c)

FRM: 66 FR 37904 (7/20/01)

PRM: 66 FR 37941 (7/20/01)

State Submission: 2/21/01

State Final: 10 C.S.R. 10-5 (12/31/00)

APDB File: MO-183

Description: This rule was revised to delete conditions for aerospace manufacture and rework facilities which are also contained in rule 10 C.S.R. 10-5.295, “Control of Emissions From Aerospace Manufacture and Rework Facilities.”

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CFR: 40 C.F.R. 52.1320(c)(79)(i)(B)

FRM: 59 FR 43480 (8/24/94, Correction Notice 60 FR 16806 (4/3/95)

PRM: 57 FR 32191 (7/21/92)

State Submission: 11/20/91

State Proposal: 16 MR 989 (7/1/91)

State Final: 10 C.S.R. 10-5 (11/29/91)

APDB File: MO-100

Description: This revision updates this rule to include the correct reference method specified in 10 C.S.R. 10-6.030.

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CFR: 40 C.F.R. 52.1320(c)(72)(i)(A)(B)(C)

FRM: 55 FR 213 (11/2/90)

PRM: 55 FR 27657 (7/5/90)

State Submission: 1/11/90

State Proposal: 14 MR 932 (7/17/89)

State Final: 14 MR 1501 (11/16/89)

APDB File: MO-75

Description: This revision rescinds the existing St. Louis industrial surface coating VOC RACT rule, and a new rule was adopted which clarifies source application levels, and compliance methods and test procedures.

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CFR: 40 C.F.R. 52.1320(c)(50)

FRM: 50 FR 14925 (4/16/85)

PRM: 49 FR 42749 (10/24/84)

State Submission: 1/24/84

State Proposal: 8 MR 977 (9/1/83)

State Final: 9 MR 249 (1/3/84)

APDB File: MO-57

Description: The EPA approved a revision to the rule which added an emission limitation for coating of plastic parts.

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CFR: 40 C.F.R. 52.1320(c)(25)(i)

FRM: 46 FR 20172 (4/3/81)

PRM: 45 FR 84099 (12/22/80)

State Submission: 9/2/80

State Proposal: 5 MR 380 (4/1/80)

State Final: 5 MR 1139 (9/2/80)

APDB File: MO-12

Description: The EPA approved revisions to the rule which added emission limitations for miscellaneous metal parts, aerospace assembly and components, railroad cars, farm implements and machinery, heavy-duty trucks, and other metal parts; and changed the applicability limit to 10 TPY for miscellaneous metal parts. Exemptions for airplanes, auto refinishing, customized top coating of autos and trucks, marine vessels, and aerospace components were approved.

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CFR: 40 C.F.R. 52.1320(c)(16)(xi)

FRM: 45 FR 24140 (4/9/80) and 45 FR 46806 (7/11/80) (correction)

PRM: 44 FR 61384 (10/25/79)

State Submission: 6/29/79

State Proposal: 4 MR 93 (2/1/79)

State Final: 4 MR 607 (7/2/79)

APDB File: MO-01

Description: The EPA approved a new regulation as part of the 1979 ozone plan. The rule established emission limits on surface coating of magnet wire, metal furniture, auto and light-duty trucks, paper, vinyl, fabric, coils, and cans. Provisions for alternative compliance plans and exemptions for sources emitting less than 50 TPY were approved.

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Difference Between the State and EPA-Approved Regulation

None.